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<b>TRANSMITTAL FORM</b> (to be used for all correspondence after initial filing)	Application Number	09/574,443	
	Filing Date	May 19, 2000	
	First Named Inventor	Dahlyat	
	Art Unit	1647	
	Examiner Name	SAOUD, Christine J.	
Total Number of Pages in This Submission	8	Attorney Docket Number	A-68084-1

ENCLOSURES (Check all that apply)		
<input type="checkbox"/> Fee Transmittal Form <input type="checkbox"/> Fee Attached <input checked="" type="checkbox"/> Amendment/Reply <input checked="" type="checkbox"/> After Final <input type="checkbox"/> Affidavits/declaration(s) <input type="checkbox"/> Extension of Time Request <input type="checkbox"/> Express Abandonment Request <input type="checkbox"/> Information Disclosure Statement <input type="checkbox"/> Certified Copy of Priority Document(s) <input type="checkbox"/> Response to Missing Parts/Incomplete Application <input type="checkbox"/> Response to Missing Parts under 37 CFR 1.52 or 1.53	<input type="checkbox"/> Drawing(s) <input type="checkbox"/> Licensing-related Papers <input type="checkbox"/> Petition <input type="checkbox"/> Petition to Convert to a Provisional Application <input type="checkbox"/> Power of Attorney, Revocation <input type="checkbox"/> Change of Correspondence Address <input type="checkbox"/> Terminal Disclaimer <input type="checkbox"/> Request for Refund <input type="checkbox"/> CD, Number of CD(s) _____	<input type="checkbox"/> After Allowance Communication to a Technology Center (TC) <input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences <input type="checkbox"/> Appeal Communication to TC (Appeal Notice, Brief, Reply Brief) <input type="checkbox"/> Proprietary Information <input type="checkbox"/> Status Letter <input type="checkbox"/> Other Enclosure(s) (please identify below):
Remarks 1 page Transmittal Form 7 pages of Response Sent Via Fax to: (703) 872-9307.		

## SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm or Individual	Diane M. Tsuda
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Date	July 28, 2003

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Attorney Docket No. A-68064-1 PATENT

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of

DAHIYAT, *et al.*

Serial No. 09/574,443

Filed: May 19, 2000

For: *Novel Proteins with Insulin-Like  
Activity Useful in the Treatment of  
Diabetes*

Group No. 1647

Examiner: Saoud, Christine J.

CERTIFICATE OF FACSIMILE  
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Signature: **RESPONSE AFTER FINAL OFFICE ACTION**

Box Non-Fee Amendment  
Assistant Commissioner for Patents  
Washington, DC 20231

Sir:

This paper is being submitted in response to the Office Action mailed April 28, 2003. This response is filed on or before July 28, 2003, making this a timely response. The Commissioner is authorized to charge any additional fees, including any extension fees, which may be required, or credit any overpayment to Deposit Account No. 502325.

**In the Claims:**

Please amend the claims as follows.

3. (Currently Amended) A non-naturally occurring insulin activity (IA) protein comprising an amino acid substitution of at least one amino acid residue when compared to the amino acid sequence of (SEQ ID NO: 2) and wherein said substitution is selected from B4-Y and B4-F.

7. (Currently Amended) A non-naturally occurring insulin activity (IA) protein comprising an amino acid substitution of at least one amino acid residue when compared to the amino acid sequence of (SEQ ID NO: 2) and wherein said substitution is selected from the group of B5-F, B5-W, B14-F, B14-W, B14-Y, and B14-I.

10. (Currently Amended) A non-naturally occurring IA protein, wherein said IA protein comprises an amino acid sequence selected from the group of amino acid sequences shown in Figure 3A (SEQ ID NO: 7), Figure 3B (SEQ ID NO: 8), Figure 3C (SEQ ID NO: 9), Figure 3D (SEQ ID NO: 10), Figure 3E (SEQ ID NO: 11), Figure 3F (SEQ ID NO: 12), Figure 3G (SEQ ID NO: 13), Figure 4A (SEQ ID NO: 14), Figure 4B (SEQ ID NO: 15), Figure 4C (SEQ ID NO: 16), Figure 4D (SEQ ID NO: 17), Figure 4E (SEQ ID NO: 18), Figure 4F (SEQ ID NO: 19), Figure 4G (SEQ ID NO: 20), Figure 5A (SEQ ID NO: 21), Figure 5B (SEQ ID NO: 22), and Figure 5C (SEQ ID NO: 23).

**Please add the following new claims.**

30. (NEW) A non-naturally occurring insulin activity (IA) protein comprises at least 2 amino acid substitutions from the A-chain and at least 5 amino acid substitutions from the B-chain compared to (SEQ ID NO: 2) wherein said substitutions are selected from the group consisting of A1N, A10Q, A16Y, A17Y, A17L, A17W, A17Q, A19F, B1D, B2E, B2T, B2K, B2Q, B2D, B2R, B2N, B2F, B4Y, B4F, B4E, B4K, B4R, B8L, B8L, B8K, B8E, B11I, B12R, B12K, B14F, B14W, B14Y, B14I, B14E, B14R, B14K, B14L, B25N, B26F, B27D and B28N, B28F.

31. (NEW) The non-naturally occurring IA protein according to claim 30, wherein said substitutions are selected from the group of substitutions consisting of A1-N, A10-Q, A16-Y, A17-Y, A19-F, B1-D, B2-K, B4-F, B8-L, B11-I, B12-R, B14-W, B25-N, B26-F, B27-D, and B28-N.

32. (NEW) A recombinant nucleic acid encoding the non-naturally occurring IA protein selected from the group consisting of (SEQ ID NO: 7), (SEQ ID NO: 8), (SEQ ID NO: 9), (SEQ ID NO: 10), (SEQ ID NO: 11), (SEQ ID NO: 12), (SEQ ID NO: 13), (SEQ ID NO: 14), (SEQ ID NO: 15), (SEQ ID NO: 16), (SEQ ID NO: 17), (SEQ ID NO: 18), (SEQ ID NO: 19), (SEQ ID NO: 20), (SEQ ID NO: 21), (SEQ ID NO: 22), and (SEQ ID NO: 23).

**Claim Objections:**

Claim 11 has been objected under 37 CFR 1.75(c) as being of improper dependent form for failing to further limit the subject matter of a previous claim. In response to the objection Applicants submit that claim 11 claims the nucleic acid sequences of the amino acid sequences of claim 10. Applicants respectfully submit that claims of similar form and scope have been found allowable. See for example US Patent Nos. 6,514,729; 5,916,769; 5,989,866; 6,004,780; 6,255,062; 6,465,235; and 6,509,170.